

ACCEPTING BIDS UNDER UNCERTAIN FUTURE DEMANDS

ABSTRACT OF THE DISCLOSURE

The present invention provides a method and apparatus for developing an optimal sales
5 plan for multiple products with multiple price classes contingent on different possible
realizations of uncertain demand over multiple time periods with the objective of maximizing
expected revenue over a constrained capacity. The present invention formulates a multistage
stochastic program that generates a quantity of each of the multiple products to be sold in each of
the multiple time periods and a recommendation for when realized demand for at least one of the
10 multiple time periods exceeds a planned sales volume; estimates a likelihood that the realized
demand for the at least one of the multiple time periods exceeds the planned sales volume; and
collects realized order data for each of the multiple time periods; and executes the multistage
stochastic program using the likelihood and the realized order data to generate a sales plan.